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# BUREAU OF RAILWAY ECONOMICS

Established by Railways of the United States  
for the Scientific Study of Transportation Problems

## Railway Trainmen's Earnings 1916

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Consecutive No. 107

Miscellaneous Series No. 28

WASHINGTON, D. C.

1917

# BULLETINS OF THE BUREAU OF RAILWAY ECONOMICS

## MONTHLY BULLETINS

The monthly summary of Revenues and Expenses of Steam Roads in the United States has been issued regularly since July, 1910.

Following is the list of Bulletins for the last twelve months:

Consecutive Number.	Monthly Report Series.	Month of—
90.	68.	January, 1916.
91.	69.	February, 1916.
93.	70.	March, 1916.
95.	71.	April, 1916.
96.	72.	May, 1916.
97.	73.	June, 1916.
98.	74.	July, 1916.
99.	75.	August, 1916.
101.	76.	September, 1916.
102.	77.	October, 1916.
104.	78.	November, 1916.
106.	79.	December, 1916.

Insert with Bulletin 97—Operating Returns: Fiscal Years Ending June 30, 1915 and 1916.

The following issues are out of print and no copies are available:

Consecutive Number.	Monthly Report Series.	Month of—
1.	1.	July, 1910.
3.	3.	September, 1910.
7.	5.	October, 1910.
9.	7.	December, 1910.
10.	8.	January, 1911.
12.	9.	February, 1911.
13.	10.	March, 1911.
19.	13.	June, 1911.
22.	15.	August, 1911.
51.	37.	June, 1913.

(Continued to page 3 of cover.)

# Railway Trainmen's Earnings

**1916**

(Compiled from Reports to the  
Interstate Commerce Commission.)

Bureau of Railway Economics

Washington, D. C.

March, 1917

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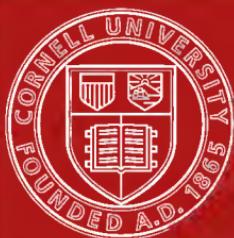
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# RAILWAY TRAINMEN'S EARNINGS

## 1916

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*Introductory.*—Effective July 1, 1915, the Interstate Commerce Commission issued a set of rules governing the classification of steam-railway employees and their compensation. The returns made by railways to the Commission for the fiscal year ended June 30, 1916, therefore, offer the first opportunity for tabulations based on a uniform classification of their employees. They also afford the opportunity to tabulate average number in service, aggregate compensation, and average annual and hourly earnings of railway employees.

This bulletin presents statistics of this nature for the fiscal year 1916, covering the different classes of railway trainmen. It covers only the returns of roads of Class I—that is, those with annual operating revenues above \$1,000,000. There were 178 of these roads in 1916, with an operated mileage of 231,245 miles. These roads handled more than 95 per cent of the freight and passenger traffic of the railways in 1916, so that statistics covering the number and compensation of their trainmen may be regarded as representative of the general conditions under which railway trainmen work.

Five tables follow; with accompanying text, which present statistics of number and compensation of railway trainmen in 1916. The remainder of the bulletin is devoted to definitions of the terms utilized in the bulletin; also a description of the classification of trainmen prescribed by the Commission.

TABLE I.—This table gives the average number of trainmen in service during 1916, distributed among the fourteen classes of road and yard trainmen. In common with the other tables in the bulletin, Table I presents statistics for the United States as a whole, and also for the Eastern, Southern, and Western districts separately. The number of trainmen shown in Table I is in each case the average of the counts made on the 16th days of July, October, January, and April, as described on page 16.

## RAILWAY TRAINMEN'S EARNINGS, 1916

TABLE I.  
AVERAGE NUMBER OF TRAINMEN IN SERVICE: FOURTEEN CLASSES OF TRAINMEN, FISCAL YEAR 1916.  
(Railways having annual operating revenues above \$1,000,000.)

Class of trainmen.	United States.	Eastern District.	Southern District.	Western District.
Road Trainmen:				
Passenger engineers and motormen.....	13,153	5,976	1,798	5,379
Freight engineers and motormen.....	29,305	13,948	4,857	10,500
Passenger and freight engineers and motormen.....	42,458	19,924	6,655	15,879
Passenger firemen and helpers.....	12,914	5,846	1,819	5,249
Freight firemen and helpers.....	31,127	14,795	5,266	11,066
Passenger and freight firemen and helpers.....	44,041	20,641	7,085	16,315
Passenger conductors.....	10,555	4,706	1,554	4,295
Freight conductors.....	23,789	10,573	4,007	9,119
Passenger and freight conductors.....	34,344	15,279	5,651	13,414
Passenger baggagemen.....	5,622	3,388	983	1,251
Passenger brakemen and flagmen.....	14,735	7,085	1,678	5,972
Freight brakemen and flagmen.....	59,268	29,586	9,845	19,837
Other road train employees.....	3,205	604	800	1,741
Other road trainmen.....	82,830	40,663	13,366	28,801
All road trainmen.....	203,673	96,597	32,757	74,409
Yard Trainmen:				
Engineers and motormen.....	14,719	8,353	2,060	4,336
Firemen and helpers.....	15,027	8,532	2,102	4,393
Conductors (or foremen).....	14,227	7,900	2,006	4,321
Brakemen (switchmen or helpers).....	37,091	21,734	5,198	10,159
All yard trainmen.....	81,094	46,519	11,366	23,209
All classes of trainmen.....	284,767	143,026	44,123	97,618

Trainmen in the service of roads of Class I averaged 284,767 during 1916, of whom 203,673, or nearly three-fourths, were assigned to road service and 81,094 to yard service. Taking road and yard trainmen together, they are distributed among the four principal classes of engineers, firemen, conductors, and other trainmen, as follows:

Class.	Number.	Per cent.
All trainmen.....	284,767	100.0
Engineers .....	57,207	20.1
Firemen .....	59,068	20.7
Conductors .....	48,571	17.1
Other trainmen.....	119,921	42.1

Taking road trainmen separately, they are distributed among the same four principal classes as follows:

Class.	Number.	Per cent.
Road trainmen.....	203,673	100.0
Engineers .....	42,458	20.8
Firemen .....	44,041	21.6
Conductors .....	34,344	16.9
Other road trainmen.....	82,830	40.7

With the exception of the very small class of "other road train employees," the returns permit the separation of road trainmen as between the passenger and the freight service. This separation, so far as the returns make it possible, is as follows:

Class of service.	Number.	Per cent.
Road trainmen.....	203,673	100.0
In passenger service.....	56,979	28.0
In freight service.....	143,489	70.4
Not separated.....	3,205	1.6

That is, nearly five-sevenths of the road trainmen are assigned to the freight service, while about two-sevenths are assigned to the passenger service.

As among the three territorial districts into which the United States is divided by the Interstate Commerce Commission, the road and yard trainmen are distributed as shown below:

District.	Road trainmen.	Yard trainmen.	All trainmen.
United States.....	203,673	81,094	284,767
Eastern district.....	96,507	46,519	143,026
Southern district...	32,757	11,366	44,123
Western district....	74,409	23,209	97,618

This distribution according to districts is reduced to a percentage basis in the following table:

District.	Road trainmen.	Yard trainmen.	All trainmen.
United States.....	100.0	100.0	100.0
Eastern district.....	47.4	57.4	50.2
Southern district...	16.1	14.0	15.5
Western district....	36.5	28.6	34.3

One-half of the trainmen are in the East, about one-third in the West, and the remaining sixth in the South. The number of yard trainmen is proportionately high in the East and proportionately low in the West.

TABLE II.—This table covers the same railways, the same operated mileage, and the same number of trainmen as Table I. It gives the aggregate compensation of the fourteen classes of road and yard trainmen during the fiscal year 1916, distributed according to class and according to territorial district.

TABLE II.  
AGGREGATE COMPENSATION OF TRAINMEN: FOURTEEN CLASSES OF TRAINMEN, FISCAL YEAR 1916.  
(Railways having annual operating revenues above \$1,000,000.)

Class of trainmen.	United States.	Eastern District.	Southern District.	Western District.
Road Trainmen:				
Passenger engineers and motormen.....	\$28,033,017.40	\$11,886,257.37	\$4,130,763.67	\$12,015,906.36
Freight engineers and motormen.....	55,009,769.93	24,676,998.64	9,031,089.53	21,301,681.70
Passenger and freight engineers and motormen.....	83,042,787.33	36,563,256.01	13,161,853.20	33,317,678.12
Passenger firemen and helpers.....	16,813,637.84	7,101,928.97	2,212,112.73	7,499,596.14
Freight firemen and helpers.....	35,524,877.33	16,279,930.72	5,259,817.70	13,985,128.91
Passenger and freight firemen and helpers.....	52,338,515.17	23,381,859.69	7,471,935.43	21,484,725.05
Passenger conductors.....	19,682,392.49	8,691,252.56	2,821,092.24	8,170,047.69
Freight conductors.....	38,601,890.03	16,595,222.60	6,320,876.38	15,775,791.05
Passenger and freight conductors.....	58,284,282.52	25,196,475.16	9,141,968.62	23,945,838.74
Passenger baggagemen.....	6,009,310.60	3,793,139.51	1,034,189.40	1,161,981.69
Passenger brakemen and flagmen.....	15,027,141.25	7,433,205.63	1,586,203.29	6,027,732.33
Freight brakemen and flagmen.....	62,602,315.60	30,221,833.11	8,965,484.91	23,414,997.58
Other road train employees.....	2,592,348.06	609,561.34	575,437.38	1,407,346.34
Other road trainmen.....	86,231,115.51	42,057,742.59	12,161,314.98	32,012,057.94
All road trainmen.....	279,896,790.53	127,199,333.45	41,937,067.23	110,760,299.85
Yard Trainmen:				
Engineers and motormen.....	23,642,002.41	13,275,932.14	3,177,207.49	7,188,862.78
Firemen and helpers.....	14,767,756.89	8,391,235.75	1,810,068.44	4,566,452.70
Conductors (or foremen).....	20,169,731.24	11,229,890.87	2,628,270.42	6,311,569.95
Brakemen (switchmen or helpers).....	44,372,802.70	26,266,269.00	5,381,002.34	12,725,531.36
All yard trainmen.....	102,952,293.24	59,163,327.76	12,996,548.69	30,792,416.79
All classes of trainmen.....	382,848,993.77	186,362,661.21	54,933,615.92	141,552,716.64

The aggregate compensation of railway trainmen in the service of roads of Class I. during 1916 was \$382,848,993. This was distributed among the four principal groups or classes of trainmen as follows:

Class.	Aggregate compensation.	Per cent.
All trainmen.....	\$382,848,993	100.0
Engineers .....	106,684,789	27.9
Firemen .....	67,106,272	17.5
Conductors .....	78,454,014	20.5
Other trainmen.....	130,603,918	34.1

Limiting this same distribution by classes to road trainmen alone, the amounts and percentage distribution are as follows:

Class.	Aggregate compensation.	Per cent.
Road trainmen.....	\$279,896,700	100.0
Engineers .....	83,042,787	29.7
Firemen .....	52,338,515	18.7
Conductors .....	58,284,282	20.8
Other road trainmen...	86,231,116	30.8

TABLE III.—This table is derived from Tables I and II, covering the same roads and the same number of trainmen. It gives the average annual earnings per trainman in 1916, statistics being presented for each of the fourteen classes of road and yard trainmen, for the United States as a whole, and by districts. The average in the case of each class is computed by dividing the aggregate compensation of that class (as shown in Table II) by the average number of that class in service during 1916 (as shown in Table I).

TABLE III.  
ANNUAL EARNINGS PER TRAINMAN: FOURTEEN CLASSES OF TRAINMEN, FISCAL YEAR 1916.  
(Railways having annual operating revenues above \$1,000,000.)

Class of trainmen.	United States.	Eastern District.	Southern District.	Western District.
Road Trainmen:				
Passenger engineers and motormen.....	\$2,131	\$1,989	\$2,297	\$2,234
Freight engineers and motormen.....	1,877	1,769	1,859	2,029
Passenger and freight engineers and motormen.	1,956	1,835	1,978	2,098
Passenger firemen and helpers.....	1,302	1,215	1,216	1,429
Freight firemen and helpers.....	1,141	1,100	999	1,264
Passenger and freight firemen and helpers.....	1,188	1,133	1,055	1,317
Passenger conductors.....	1,865	1,847	1,815	1,902
Freight conductors.....	1,623	1,561	1,543	1,730
Passenger and freight conductors.....	1,697	1,649	1,618	1,785
Passenger baggagemen.....	1,069	1,120	1,072	929
Passenger brakemen and flagmen.....	1,020	1,049	933	1,009
Freight brakemen and flagmen.....	1,056	1,021	911	1,180
Other road train employees.....	809	1,009	669	808
Other road trainmen.....	1,041	1,034	910	1,111
All road trainmen.....	1,374	1,318	1,280	1,489
Yard Trainmen:				
Engineers and motormen.....	1,603	1,589	1,542	1,658
Firemen and helpers.....	983	984	861	1,039
Conductors (or foremen).....	1,418	1,422	1,310	1,461
Brakemen (switchmen or helpers)	1,196	1,209	1,035	1,253
All yard trainmen.....	1,270	1,272	1,143	1,327
All classes of trainmen.....	1,344	1,303	1,245	1,450

The annual earnings of all trainmen in the service of roads of Class I in 1916 averaged \$1,344 per man. The average was highest in the Western district, \$1,450; next highest in the Eastern district, \$1,303; and lowest in the Southern district, \$1,245. This relationship between the districts did not hold for all the individual classes. Thus for road passenger engineers the average was highest in the Southern district and lowest in the Eastern district; for road passenger firemen the averages are almost the same for South and East, while both are lower than in the West; for road freight engineers the average was highest in the West and lowest in the East.

The average earnings of the four principal classes of trainmen in 1916 were as follows:

Class.	Road trainmen.	Yard trainmen.	All trainmen.
All classes.....	\$1,374	\$1,270	\$1,344
Engineers .....	1,956	1,603	1,865
Firemen .....	1,188	983	1,136
Conductors .....	1,697	1,418	1,615
Other trainmen.....	1,041	1,196	1,089

TABLE IV.—This table also covers the same roads and the same classes of trainmen as the preceding tables. It gives the total number of hours on duty, including hours held for duty, of each of the fourteen classes of road and yard trainmen. As in the other tables, the statistics are shown for the United States as a whole and for the three districts separately. Table IV appears on page 14.

TABLE V.—This table is derived from Tables II and IV. For each class of road and yard trainmen the average earnings per hour have been computed by dividing the aggregate compensation (Table II) by the total number of hours on duty (Table IV). Table V appears on page 15.

TABLE IV.  
TOTAL NUMBER OF HOURS ON DUTY: FOURTEEN CLASSES OF TRAINMEN, FISCAL YEAR 1916.  
(Railways having annual operating revenues above \$1,000,000.)

Class of trainmen.	United States.	Eastern District.	Southern District.	Western District.
Road Trainmen:				
Passenger engineers and motormen.....	30,983,855	14,876,919	4,194,309	11,912,627
Freight engineers and motormen.....	90,550,660	44,852,053	13,541,363	32,157,244
Passenger and freight engineers and motormen.....	121,534,515	59,728,972	17,735,672	44,069,871
Passenger firemen and helpers.....	29,780,869	14,400,380	4,136,735	11,243,754
Freight firemen and helpers.....	91,157,700	45,076,584	13,715,517	32,365,599
Passenger and freight firemen and helpers.....	120,938,569	59,476,964	17,852,252	43,609,353
Passenger conductors.....	27,527,558	12,792,537	4,016,757	10,718,264
Freight conductors.....	76,970,009	35,468,855	12,355,825	29,145,329
Passenger and freight conductors.....	104,497,567	48,261,392	16,372,582	39,863,593
Passenger baggage men.....	14,897,167	9,417,507	2,487,333	2,992,327
Passenger brakemen and flagmen.....	37,126,261	18,499,935	4,284,864	14,341,522
Freight brakemen and flagmen.....	185,637,210	94,308,195	28,115,399	63,213,616
Other road train employees.....	8,899,323	1,829,505	2,488,048	4,671,170
Other road trainmen.....	246,649,961	124,055,142	37,376,184	85,218,635
All road trainmen.....	593,620,612	291,522,470	89,336,690	212,761,452
Yard Trainmen:				
Engineers and motormen.....	54,764,700	31,275,026	7,222,169	16,267,505
Firemen and helpers.....	54,659,600	31,103,720	7,231,773	16,324,107
Conductors (or foremen).....	52,030,638	29,194,461	6,880,946	15,955,231
Brakemen (switchmen or helpers).....	126,189,694	74,254,376	16,825,221	35,110,097
All yard trainmen.....	287,644,632	165,827,583	38,160,109	83,656,940
All classes of trainmen.....	881,265,244	457,350,053	127,496,799	296,418,392

TABLE V.

AVERAGE COMPENSATION PER HOUR: FOURTEEN CLASSES OF TRAINMEN, FISCAL YEAR 1916.  
(Railways having annual operating revenues above \$1,000,000.)

Class of trainmen.	United States.	Eastern District.	Southern District.	Western District.
Road Trainmen:				
Passenger engineers and motormen.....	90.48	79.90	98.48	100.87
Freight engineers and motormen.....	60.75	55.02	66.69	66.24
Passenger and freight engineers and motormen.	68.33	61.21	74.21	75.60
Passenger firemen and helpers.....	56.46	49.31	53.47	66.69
Freight firemen and helpers.....	38.97	36.12	38.35	43.21
Passenger and freight firemen and helpers.....	43.28	39.31	41.85	49.27
Passenger conductors.....	71.50	67.94	70.23	76.23
Freight conductors.....	50.15	46.53	51.16	54.13
Passenger and freight conductors.....	55.78	52.21	55.84	60.07
Passenger baggagemen.....	40.34	40.28	42.38	38.83
Passenger brakemen and flagmen.....	40.48	40.18	36.55	42.03
Freight brakemen and flagmen.....	33.72	32.05	31.89	37.04
Other road train employees.....	28.84	33.32	23.12	30.13
Other road trainmen.....	34.96	33.90	32.54	37.56
All road trainmen.....	47.15	43.63	46.94	52.06
Yard Trainmen:				
Engineers and motormen.....	43.17	42.45	43.99	44.19
Firemen and helpers.....	27.02	26.98	25.03	27.97
Conductors (or foremen).....	38.77	38.47	38.20	39.56
Brakemen (switchmen or helpers).....	35.16	35.37	31.98	36.24
All yard trainmen.....	35.79	35.68	34.06	36.81
All classes of trainmen.....	43.44	40.75	43.09	47.75

Table V shows the average hourly compensation of the fourteen classes of road and yard trainmen for 1916. The average for the United States was 43.4 cents; was 40.8 cents for the East, 43.1 cents for the South, and 47.8 cents for the West.

The compensation of the four principal classes of road trainmen average per hour on duty or held for duty was as follows:

Cents per hour: 1916.

Class.	Passenger service.	Freight service.	Total.
Engineers .....	90.5	60.8	68.3
Firemen .....	56.5	39.0	43.3
Conductors .....	71.5	50.2	55.8
Other road trainmen.....	....	....	35.0

These averages are of actual earnings per hour, and do not represent hourly rates of pay.

#### DEFINITIONS.

*Railway employees defined.*—The rules of the Interstate Commerce Commission define the term "railway employee" as follows: "The word *employee* is intended to include every person in the service of the reporting carrier subject to its continuing authority to supervise and direct the manner of rendition of his service."

*Number of employees.*—Carriers are required to classify and count the employees in their service at four different times each year: as nearly as possible the 16th day of July, October, January, and April. Under the rules of the Commission, this count includes "every person sustaining to the carrier the relation of employee and actually in service or available for duty on the day of the count." Employees specifically excluded from the count are those absent on definite leave, those under suspension, and pensioners not bound to render service.

*Hours on duty.*—Under the rules of the Commission, time spent while actually at work or while subject to orders is included by the carriers in their report of hours on duty. Time allowed for meals, for half holidays, holidays, absence on leave, and vacations is not included. The hours of the several classes of road and yard trainmen are governed by these rules regarding time on duty or held for duty.

*Classification of trainmen.*—The Interstate Commerce Commission classifies railway employees into 68 separate classes or groups, the classification being based upon the respective occupation of each group of employees. Fourteen of these classes comprise the general group known as railway trainmen. They are distinguished between road trainmen and yard trainmen as follows:

Road trainmen:

1. Road freight engineers and motormen.
2. Road freight firemen and helpers.
3. Road freight conductors.
4. Road freight brakemen and flagmen.
5. Road passenger engineers and motormen.
6. Road passenger firemen and helpers.
7. Road passenger conductors.
8. Road passenger baggagemen.
9. Road passenger brakemen and flagmen.
10. Other road train employees.

Yard trainmen:

11. Yard engineers and motormen.
12. Yard firemen and helpers.
13. Yard conductors (or foremen).
14. Yard brakemen (switchmen or helpers).

These fourteen classes of trainmen are defined by the Interstate Commerce Commission regulations as follows:

*Road Trainmen.*

1. *Road freight engineers and motormen.*—Employees engaged in operating steam or electric locomotives in freight-train, mixed-train, road work-train, and wreck-train service.
2. *Road freight firemen and helpers.*—Employees engaged in firing steam locomotives and in helping on electric locomotives in freight-train, mixed-train, road work-train, and wreck-train service.
3. *Road freight conductors.*—Employees in charge of trains and train crews in freight-train, mixed-train, road work-train, and wreck-train service.

4. *Road freight brakemen and flagmen*.—Employees in freight-train, mixed-train, road work-train, and wreck-train service, who assist in the handling of the train.
5. *Road passenger engineers and motormen*.—Employees engaged in operating locomotives and motor cars in passenger-train service.
6. *Road passenger firemen and helpers*.—Employees engaged in firing locomotives and helping motormen in passenger-train service.
7. *Road passenger conductors*.—Employees in charge of passenger trains and train crews.
8. *Road passenger baggagemen*.—Employees in charge of baggage and pouch mail service on passenger trains.
9. *Road passenger brakemen and flagmen*.—Employees in passenger-train service who assist in the handling of the train.
10. *Other road train employees*.—Train employees not provided for in the foregoing nine classes, such as: train ticket collectors, train auditors, train electricians, train stenographers, train porters, train matrons, etc.

#### *Yard Trainmen.*

11. *Yard engineers and motormen*.—Employees engaged in operating steam or electric locomotives in yard switching and work service.
12. *Yard firemen and helpers*.—Employees engaged in firing steam locomotives and helping on electric locomotives in yard switching and work service.
13. *Yard conductors (or foremen)*.—Employees who have direct charge of engines and crews engaged in yard switching and work service.
14. *Yard brakemen (switchmen or helpers)*.—Employees who couple and uncouple or ride cars in breaking up or making up trains, such as yard brakemen, car riders, yard switchmen (brakemen), and other employees performing similar service; also brakemen on yard work trains.





BULLETINS OF THE  
BUREAU OF RAILWAY ECONOMICS

MISCELLANEOUS PUBLICATIONS

(Continued from page 2 of cover.)

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21.	7.	The Cost of Transportation on the Erie Canal and by Rail.
39.	13.	Comparison of Capital Values—Agriculture, Manufactures, and the Railways.
45.	14.	Railways and Agriculture, 1900-1910.
62.	16.	List of Publications Pertaining to Government Ownership.
73.	18.	The Arguments For and Against Train-Crew Legislation.
88.	22.	Summary of Railway Returns for the Fiscal Year Ending June 30, 1915.
92.	23.	Arguments For and Against Limitation of Length of Freight Trains.
94.	24.	Railway Stockholders, June 30, 1915.
100.	25.	Comparative Railway Statistics, United States and Foreign Countries, 1913.
103.	26.	Statistics of Railways, 1905-1915, United States.
105.	27.	Summary of Railway Returns for the Fiscal Year Ending June 30, 1916.
107.	28.	Railway Trainmen's Earnings, 1916.

The following issues are out of print and no copies are available:

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15.	4.	53.	15.
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